THE UNIVERSITY OF TEXAS AT AUSTIN Date: 9/4/13

RECOMMENDATION FOR CHANGE IN ACADEMIC RANK/STATUS

Name: Mikhail Belkin Present Rank: Assistant Professor

Years of Academic Service *(Include AY 2013-14 in each count)*:

At UT Austin since: 9/1/08 (m/d/y) In present rank: 6 (# of years); In Probationary Status (TT **only**): 6 (# of years)

Department: Electrical and Computer Engineering

Other: _____

College/School: Cockrell School of Engineering

Recommended action[1]:

By Budget Council/Executive Committee: Promote to Associate Professor

Vote[2] for promotion 27; Against 0; Abstain 0; Absent 8

By Department Chair: Promote to Associate Professor

By SBS Executive Committee: _____

Vote[2] for promotion _____; Against _____; Abstain _____; Absent _____

By Director: _____

By College/School Advisory Committee: Promote

Vote[2] for promotion 7; Against 0; Abstain 0; Absent 0

By Dean: Promote

Administrative Action: Promote to Associate Professor

Date Action Effective: September 1, 2014
(To be submitted to the Board of Regents as part of the annual budget.)

By: _____ Date: 12/16/2013
For the President

[1]See "Chart of Recommended Actions" for eligible recommended actions applicable to specific conditions and administrative levels.

[2]All votes are to be recorded as For, Against, or Abstain. (Note: unexplained abstentions will be interpreted as weak negative votes by the President's Committee.) Also record number of absent eligible voting members.

EVPP/4.13

EXHIBIT
P's 144

Dean's Assessment
Mikhail Belkin
Department of Electrical and Computer Engineering

Mikhail Belkin received a BS degree in Applied Physics and Mathematics from the Moscow Institute of Physics and Technology in 1998, and MA (2000) and PhD (2004) degrees in Physics from the University of California at Berkeley. Between 2004 and 2008, Dr. Belkin was a postdoctoral fellow and a research associate in the School of Engineering and Applied Sciences at Harvard University. He was appointed an assistant professor at UT Austin in 2008.

Ten external review letters were submitted as part of the promotion dossier, five were suggested by the candidate and five were selected by the budget council. Seven reviewers are faculty at US universities, two are faculty at European universities, and one is a senior scientist at a DOD research laboratory. One reviewer is a member of NAE and another is a member of NAS.

Teaching
Dr. Belkin has taught one undergraduate course and two graduate courses: EE 325, *Electromagnetic Engineering* (three times); EE 396V, *Nanostructured Optoelectronics* (one time); and EE 383V, *Nonlinear Optics* (four times). His average overall instructor/course ratings for these courses are 3.67/3.30, 4.3/4.0, and 4.45/4.27, respectively. Dr. Belkin also supervised a three-student, senior design project team during the 2012 spring and summer semesters.

The weighted average/median instructor ratings in the Department of Electrical and Computer Engineering over the last five years are 4.06/4.08 for assistant professors teaching undergraduate courses and 4.22/4.36 for assistant professors teaching graduate courses.

Dr. Belkin's instructor ratings in EE 325 are below the department average for undergraduate courses; however, this course appears to be difficult to teach. Over the past six years, 31 sections of EE 325 have been offered by eight tenured and tenure-track faculty and only two faculty members have achieved an average instructor rating in EE 325 that exceeds the median for undergraduate courses in the department. The peer review report for EE 325 indicated that Dr. Belkin engaged the students and was very clear in his presentation of the material.

Research
Dr. Belkin's research focuses on novel optoelectronic and optomechanical devices, metamaterials, and photonic systems operating in mid-infrared (mid-IR) and terahertz (THz) spectra. His primary research contributions in rank are (1) room-temperature, compact THz lasers and (2) development of quantum cascade laser systems for mid-infrared molecular spectroscopy.

Dr. Belkin's publication record is excellent. Since joining the faculty at UT Austin, he has published 29 refereed journal publications in journals with high impact factors, including *Nature Communications*, *Applied Physics Letters*, and *IEEE Journals*. His career total is 56 journal papers. Dr. Belkin holds three patents and has submitted eight additional patent applications.

Dr. Belkin has secured research funding from highly competitive federal (NSF, DOD, DOE), state, and foundation programs. He serves as principal investigator on eight of these projects and co-PI on four. Total funding in rank is over $3.9 million and his share is nearly $2.5 million. Dr. Belkin's research impact has been recognized by several prestigious young investigator awards (Air Force Office of Sponsored Research, National Science Foundation, Texas Higher Education Coordinating Board, and Defense Advanced Research Projects Agency).

The external reviewers uniformly recognized the impact of Dr. Belkin's work in the area of quantum cascade lasers (QCL) for addressing high temperature operation and broadband tenability, and the use of QCLs to increase the spatial resolution in molecular spectroscopy:

Dr. James Coleman (University of Illinois at Urbana Champaign, NAE) writes, "For his research, Prof. Belkin has become a well-known and prolific contributor to the area of quantum cascade lasers. To be very clear, I am intending to send the message that the bar is set very high and Prof. Belkin is answering the challenge very well. He is bright, creative, and prolific."

Dr. Marlan O. Scully (Texas A&M University, NAS) writes, "In a short time Misha was able to build a highly-successful research group and, in my opinion, he is now the innovative and most accomplished scientist among his peers in the area of mid-infrared and THz photonics. I also consider Misha to be one of the most successful young scientists in photonics area in general."

Dr. Qing Hu (Massachusetts Institute of Technology) writes, "Dr. Belkin's group has developed a room-temperature THz source with ~0.1 mW and a broad tuning range of several THz … This is a significant development which could lead to compact THz sources with broad frequency coverage."

Dr. Dan Botez (University of Wisconsin-Madison) writes, "…a highly intelligent scientist possessed of a no-nonsense attitude of implementing new device concepts not only for achieving scientific breakthroughs but also for realizing novel devices of practical use. The future looks bright for Misha Belkin. Not only is he making breakthroughs in two fields (i.e., THz QCLs and molecular spectroscopy), but he has already positioned himself well for making significant contributions in the hot new applied-physics fields of plasmonics and metamaterials."

Advising and Student Mentoring

Dr. Belkin has graduated one PhD student and one MS student at UT. He is currently supervising four PhD students, three MS students, and one postdoctoral scholar.

Dr. Belkin also participates in the UTeachEngineering MA program in Science, Technology, Engineering, and Mathematics Education as a summer research supervisor. A high school teacher is performing MS thesis research in Dr. Belkin's laboratory through this program.

University Service

Dr. Belkin serves as the coordinator for the solid-state electronics graduate program in the Department of Electrical and Computer Engineering. In this capacity, he oversees the recruitment and admission of new graduate students and the PhD qualifying exams. In addition, he serves on the transition committee, which is managing the transition of the department from their existing facilities to the new Engineering Education and Research Center.

Professional Service

Dr. Belkin is currently serving as a co-chair of the 12th International Conference on Intersubband Transitions in Quantum Wells. He has also served on a number of conference program committees for international conferences and technical meetings. He currently serves as the chair of the Central Texas Chapter of the IEEE Photonics Society.

Other Evidence of Merit or Recognition

Dr. Belkin has been recognized by a number of competitive young investigator awards for his research potential and accomplishments. These include AFOSR young investigator research program award (2009), NSF CAREER award (2012), DARPA young faculty award (2012), and the Norman Hackerman early career

investigator award (2012). One of the references, Dr. James Coleman (NAE member) writes "Most young faculty would be delighted to receive one of these awards and Prof. Belkin has won four!"

Overall Assessment

Dr. Belkin has made several notable advances in the areas of novel optoelectronic devices and photonic systems operating in the mid-infrared and terahertz spectra. He has secured research funding from highly competitive federal and non-federal sources. External letters uniformly support his tenure and promotion and indicate that he has become a leader in his field of research with a productivity and impact significantly above his peers.

Accordingly, I am pleased to provide a strong recommendation to promote Mikhail Belkin to associate professor with tenure.

Sharon L. Wood, Interim Dean
31 October 2013